



## Proposed Research Report on Necessity for 700 MHz Interoperability

by

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### 1. Introduction

A major public policy challenge that must be resolved is how to get the Federal Communications Commission (FCC) to take urgent action to enforce the agency's traditional policy of interoperability in mobile communications. Action by the FCC is needed to reverse a concerted effort by AT&T and Verizon Wireless to subvert this fundamental principle, which has traditionally been a central and indispensable element of public policy. These two largest operators in the U.S. are exhibiting a total disregard for this principle in the plans they are now in the process of aggressively implementing for mobile broadband deployments in the 700 MHz band. The 700 MHz band is one of the two principal bands in which deployments of Long Term Evolution (LTE) technology have been launched and are now being deployed on a large scale in the U.S. Allowing non-interoperability in the 700 MHz band will therefore entail severe adverse long term consequences for the development of LTE –based broadband services in the U.S., as well as internationally in today's global economy. The gravity of these consequences and the imperative of preempting this outcome are inescapable since LTE is destined to become the dominant mobile broadband technology in the U.S. and worldwide.

The public policy rationale for telecommunications network infrastructure, and now wireless broadband communications, is the promotion of the public interest, convenience, and necessity, along with the benefits stemming from the existence and continuation of a healthy competitive market for telecommunications-information-entertainment (T-I-E) industry network services and applications. This rationale is currently under threat from the anti-competitive tactics and unilateral actions of the two largest wireless network operators, AT&T-Mobility and Verizon Wireless. These two market participants are attempting to make the 700 MHz band non-interoperable, thereby creating an untenable situation for all of the smaller players in the market as well as inhibiting the efficient and effective development of mobile broadband services in the most economical and valuable way for all customers in the U.S., both U.S.-based as well as tourists and business travelers visiting the U.S. from abroad. Indeed, interoperability has been a foundation condition on which all telecommunications networks have been established in this country, resting upon fundamental assumptions set forth in the 1934 Communications Act (and as reaffirmed in the 1996 Telecommunications Act).

So far, there has been no review of the implications of the fundamental, unilateral change in public policy regarding non-interoperability being introduced *de facto* in stealth mode<sup>1</sup> by these two companies. The FCC's review of these two companies' initiatives should have taken place **before**, not after or during, the deployment of 700 MHz LTE services, applications and non-interoperable handsets,

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<sup>1</sup> i.e., they are creating a precedent in one band with the introduction of a new technology (LTE), thereby limiting the visibility of the extent of the ultimate damage when the entire structure of interoperability collapses but it will then be too late to do anything about it.



i.e. *ex ante* rather than *ex post*. No unilateral or unauthorized policy change regarding interoperability should have been allowed, and/or an exception and/or waiver to the policy granted under well-defined conditions, **without** a review in which all affected parties would have had adequate opportunities to present their views and supporting research and data about the merits, risks, and likely damages that would ensue. We are now faced with a situation in which the review has to be initiated while the parties that are violating current policy continue unilaterally to make investments that do so, without paying any regard to short term, let alone long term, negative national socio-economic effects. At the same time they are of course claiming without substantiation that to force them now to reverse course would cost them “billions.”

The FCC’s review of 700 MHz non-interoperability has therefore become a matter of the highest priority whose outcome will have a profound and long lasting impact on the future of broadband in the U.S. The outcome of this review may well, and in this case should be that both AT&T-Mobility and Verizon Wireless are prohibited from continuing to implement and are obliged to reverse their current practice of deploying non-interoperable 700 MHz systems. These deployments should be rejected both as an exceptional one-off unilateral (and utterly self-serving) action, and as a precedent that establishes a major policy change.

The justification for the FCC’s review is that basic principles of democracy and transparency underlying the procedure by which important public policy changes have traditionally been considered before being enacted or rejected have been utterly ignored and flouted by Verizon and AT&T in their ongoing 700 MHz LTE deployments. Yet no action has been taken by the FCC despite a request to do so that is now two years old.

AT&T’s subversion of interoperability is founded upon the introduction of Band Class 17 for its 700 MHz frequencies that was only defined **after** the conclusion of Auction 73. This means that all bidders in the auctions assumed interoperability, in accord with earlier spectrum allocation rules and auctions, and in the absence of a warning from the FCC that the spectrum blocks would not be interoperable. The action of Verizon in its 700 MHz frequencies is perhaps even more egregious than that of AT&T, since Verizon acquired the Upper C block that in Auction 73 was specifically made subject to conditions of **Open Access** for devices and applications. Reconciliation of Verizon’s deliberate choice to introduce non-interoperable devices in the C block with these conditions appears to be in conflict with its commitment to the FCC. Verizon’s pursuit of non-interoperability should therefore be stopped immediately by the FCC before it does further damage to the long standing goal of creating a nationwide ubiquitous interoperable network that is available to all Americans on an equal, non-discriminatory, non preferential basis, at affordable rates. This is the principle thanks to which telecommunications-information networks have become a critical part of this nation’s socio-economic fabric and political power.

The urgent need for action by the FCC to recognize, and rapidly halt, then subsequently reverse, this looming, fundamental and surreptitiously insinuated *de facto* change in communications policy in the U.S. is reinforced by the estimate that by the end of 2011 there will be only a few million mobile customers of Verizon and AT&T who use non-interoperable devices. From now on this number will rise



rapidly into the tens of millions over the next 18-24 months as a result of the major sales and marketing programs that will be launched. If this level of market penetration is reached the facts on the ground (and through the air) may make it almost unaffordable, and perhaps practically impossible, to restore the U.S. communications market to its invaluable, customer-friendly and pro-competitive condition of interoperability. This condition has been a long established tenet of telecommunications, in the fixed as well as the mobile arenas. It must not be allowed to disappear purely as a result of the self-serving actions of the two largest U.S. operators<sup>2</sup>, with adverse consequences not only nationally but globally. In this case “action delayed will mean interoperability denied”, or “to languish will lead to anguish.”

It is futile to hope that interoperability can be re-introduced in the context of individual spectrum license transactions, which AT&T and Verizon may present for FCC approval. Even if an interoperability requirement is established in any one such case, that will not stop all ongoing let alone future stealth attacks to undermine it. It is a fundamental public policy requirement to re-affirm and reinforce the interoperability that is now being imperiled by these two operators’ actions, independently of any of their current and possible future initiatives.

## 2. Objective of the Research Program

The objective of the research program outlined below is to develop irrefutable evidence, persuasive arguments and convincing ways to develop and present key and compelling facts so that the FCC: (i) Halts the further development of non-interoperable investments in the short term, and (ii) Ensures that the moves to non-interoperability are reversed and eliminated for the longer term on as permanent and solid a basis as possible. A second target of these fact-based reports should be the Department of Justice (DOJ), in accordance with its responsibility to enforce antitrust law. Antitrust violations, if they have not occurred already, will be an inevitable consequence of non-interoperability.

## 3. Analyses

We propose to undertake analyses based on existing material, which we recognize and acknowledge is already substantial and valuable, but not consolidated into a coherent set of messages, that will be supplemented by our own further research to test and as far as possible validate, and if necessary modify and add to, a number of key hypotheses as follows:

- Non-interoperability in the 700 MHz band is not necessary and will be harmful to the interests of all users of mobile broadband services in the U.S., including customers of AT&T and Verizon, and, importantly and critically, to the needs of public safety and homeland security communications. Among other consequences it will erode the effectiveness and violate the intent of the FCC’s own data roaming mandate.
- The motivations of AT&T and Verizon are consistent with their persistent strategy of establishing barriers against competitors, regardless of whether they are in the interests of their customers or the public interest.
  - In this analysis we will make extensive use of the inherent contradictions in AT&T’s and Verizon’s own documents and statements and the hypocrisy they exhibit in proclaiming

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<sup>2</sup> Whose executives proclaim its importance even while their companies are actively pursuing its destruction



the value of interoperability and their support of public safety and homeland security communications, while pursuing courses of action that erode the former and raise the costs and reduce the capabilities of the latter.

- We will also prepare a timeline of AT&T's and Verizon's actions since Auction 73 to show that they had no real need for non-interoperability and took actions to introduce it in the 700 MHz band that other bidders in the auction could only have been aware of after the fact. We will identify for the FCC (and the DOJ) the documents they should obtain under discovery or subpoena from AT&T and Verizon – as well as from other parties such as Motorola and Ericsson – to demonstrate the true motivations behind and the timing of these two operators' planning.
- Non-interoperability has already caused significant damage to other operators who acquired 700 MHz frequencies in March, 2008 with every legitimate expectation that interoperability would be applied in this band as in all other bands.
  - There may be grounds for legal action<sup>3</sup> against AT&T and Verizon by other operators on the grounds of this damage, and even against the FCC, for failing to stop a de facto violation of the conditions under which Auction 73 was operated, i.e., implicit interoperability since no change in or exception to public policy was stipulated, and in the case of the C block the open access conditions.
  - We will identify areas of likely damage, including delays and higher prices associated with the availability of handsets, delays in deployment and reduced market shares, which result, either directly or indirectly, from the lack of interoperability created by AT&T and Verizon Wireless.
- The damage that will result in future if non-interoperability is allowed to continue on its present path for another 12, let alone 18-24, months, along with the costs and difficulty of restoring interoperability, will increase geometrically or exponentially as the number of customers using non-interoperable devices climbs to several tens of millions.
- There are, or will arise, serious antitrust implications if non-interoperability is allowed to spread, since, for example, other operators will find themselves unable to compete due to problems of finding mobile devices (AT&T/VZW are acting in a way they know will restrict competitors' access to a key finite resource, i.e., the engineering and other resources of chipset vendors and device suppliers).<sup>4</sup>
- Non-interoperability has significant adverse international/global consequences, for example with respect to international data roaming. Furthermore, it establishes a unique U.S. condition that will cause foreign regulators and policy authorities to question the commitment of the U.S. to international cooperation given the unnecessary added complexity it imposes on the already very fragmented (by frequency band) global LTE ecosystem.

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<sup>3</sup> We will only investigate this possibility if requested to do so and following the lead of legal counsel.

<sup>4</sup> There may also be a case to be made about “coordinated interaction”, i.e., a division of frequencies in the 700 MHz band between two operators, and their actions or inactions, whether directly communicated or not, that may unfairly create barriers for, or effectively exclude, other market participants from exploiting the frequencies that they acquired in good faith.



#### **4. Findings and Recommendations**

Based on the results of the analyses outlined above, we will formulate and present findings and most importantly recommendations and proposals for action by the FCC (and possibly the DOJ) to halt and reverse the momentum to non-interoperability that is being built up aggressively by AT&T and Verizon.

These recommendations will include short term and/or immediate actions<sup>5</sup> that the FCC should undertake, as well as proposals for reaffirming, enforcing adherence to, and bringing the principles and policies of interoperability up-to-date for the broadband era.

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<sup>5</sup> We have already formulated a few ideas in this context that we will be happy to share with you at the initiation of this work.